Educational Selectivity of Migrants and Current School Enrollment in Four Sub-Saharan African Countries

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Abstract

Migration may impact children in sending households but the direction and consistency of the association between migration and children's schooling remains unclear. Taking advantage of comparable data across four settings of labor migration in Africa, this paper addresses the extent to which children's school enrollment is higher in households engaged in labor migration than in non-migrant households. We hypothesize that educational selection into migration may explain differential outcomes among children in migrant sending households. The results suggest that higher school enrollment in migrant sending households is related to the educational selectivity of migrants. Children in Burkina Faso, Kenya, and Senegal who live in households where migrants are positively selected are more likely to be enrolled in school than their peers in non-migrant households. Nigeria is the only country where no association exists between educational selectivity of migrants and current school enrollment.

Introduction

The United Nations Millennium Development Goals to improve human development around the globe focus specifically on improving inequalities in education. These goals include reaching universal primary education (Goal 2) and reducing gender disparities in primary and secondary education (Goal 3) by 2015 (UN, 2010). To reach such macro-level goals, it is necessary to understand the individual and family level factors that impede and facilitate sending children to school, keeping them in school, and having them achieve while in school. Labor migration is one factor that may enhance the household resources needed to afford schooling. Yet, migration may also create a competing activity that reduces children's school enrollment.

The study of migration has often been predicated on the proposition that migration is a strategy families use to invest in children's well-being and development (Stark, 1991). As migration becomes more recognized as a global phenomenon, research has turned to evaluating these expected returns to migration. Expanding from Stark (1991) and the "New Economics of Labor Migration", current research employs conceptual frameworks that suggest that migration will have largely positive impacts on children's access to educational and health resources. And some previous research finds that economic resources generated by a migrating household member (most often a parent) are often used in ways that enhance children's access, persistence, and success in formal school settings. In El Salvador, for example, remittances have a positive effect on children's entrance to school and persistence in school (Cox Edwards & Ureta, 2003). And, in Mexico and Indonesia, children from households of internal migrants are more likely to be in their appropriate grade for age than their peers from non-migrant households (Deb & Seck, 2009). The positive returns are found in non-Latin American settings as well (Chen et al, 2009; Piotrowski & Paat, 2012).

But, there are several different ways in which migration could influence children's well-being in migrant-sending households. Although New Economics of Labor Migration theory predicts positive returns to households that can then be spent on improvements in child nutrition, health, and education, it is not clear that schooling is always enhanced by the migration of other household members. Drawing from the cumulative causation perspective, for example, migration may become a normative path that reduces incentives for furthering education among young people who intend to become labor migrants themselves (Fox et al., 2012; Kandel & Kao, 2004). In this case, migration and education are not complementary but competitive routes to social mobility.

Assessing the role of migration on children's well-being is also complicated by the fact that selection into migration and the returns from migration operate differently across contexts. In well-established settings of labor migration, the incentive for migration may be highest among those with lower stores of human capital (i.e. negative selection on education). In other settings, particularly where the cost of migration is higher and migrant networks are less established, migration occurs more frequently among those with greater human capital (i.e. positive selection on education). Thus, there may be great variation in the selection of migrants from diverse regions (Takenaka & Pren, 2010; Feliciano, 2005). While many studies use statistical techniques to reduce the selection effect on their analyses, few have looked to differential selection into migration as a mechanism to explain differential outcomes among children.

This paper takes advantage of comparable data across four dynamic settings in Africa to address two research questions: (1) Is household labor migration similarly associated with the school enrollment of left-behind children consistently across four different settings of labor migration? and (2) Does the association between migration and children's school enrollment

vary depending on whether migrants are positively selected on education? The social context in which migration occurs may alter the relationship between education and the returns to migration for children left behind by migrants. Thus, we consider the role of 'positive' selection on migration in the probability that children in sending households remain in school in four understudied settings: Burkina Faso, Kenya, Nigeria, and Senegal. We hypothesize that current school enrollment will be higher among children living in households with positively selected migrants than their peers in non-migrant households.

Background:

Immigrant Selection

Immigration is not a random event and immigrants are not randomly selected from across the economic and social realms. In the case of labor migration, many immigrants are selected from the middle strata of human capital, where resources are high enough to fund migration trips but low enough to work as an incentive (i.e. a push) to migration (Kaestner & Malamud, 2014). Selection forces also vary depending on the maturity of migrant systems and the degree of educational inequality in origin communities. "In the initial stages of migration, where migrant networks are not well developed, education matters more and migrants tend to be more highly selected" (Takenaka & Pren, 2010). 'Positive' selection occurs when individuals who have higher stores of human capital than average for their origin community have greater opportunities through migration than remaining in the their community. Migrants with less education may rely on networks to facilitate migration while those with more education can tap into larger networks of weak ties to facilitate migration (Wong & Salaff, 1998). 'Negative' selection occurs when individuals with lower stores of human capital compared to the average in the origin community are drawn into migration. Negative selection is more likely when local

labor markets disfavor low skilled workers, costs of migration are low, and destination markets offer opportunities for low skilled labor. To assess the importance of selection, researchers compare the human capital or other characteristics of immigrants to the same attributes among the origin or sending population. For example, Feliciano (2005) does this for the United States by comparing immigrants' education to that of the average level of education in their origin countries (Feliciano, 2005). She finds that nearly all immigrants to the United States are 'positively' selected.

Positive selection from developing settings is often equated with 'brain drain', particularly in the case of legal international migration to the United States or other OECD countries (Adams, 2003). For health care workers from Sub-Saharan Africa, for example, demand for skills is high abroad and often poorly compensated in the country of origin (Syred, 2011). But migration across national borders within Africa shows mixed patterns of educational selectivity. In general, rural-urban migrants tend to have higher levels of education than their rural counterparts in several of the countries we compare here including Kenya, Nigeria, and Senegal (De Brauw, Mueller, & Lee, 2014). There is some evidence of positive educational selectivity into capital cities in West Africa (De Vreyer, Gubert, & Roubaud, 2010). In particular, female education is predictive of migration from rural to urban areas in sub-Saharan Africa (Brockerhoff & Eu, 1993; Reed et al., 2010). There is less positive selection in other African migration streams, particularly for rural residents who migrate to other rural areas to work as agricultural or extraction (i.e. mining) laborers. This is particularly the case where the costs and structural barriers to migration are low (Orrenius & Zavodny, 2005). Thus, selection is also correlated with distance so that migration to further destinations will be more possible and attractive for more highly educated individuals. There is smaller variation in education levels

among migrants and non-migrants in Mexico but much higher levels of education among migrants than non-migrants in Peru where migrant destinations are more varied (Takenaka & Pren, 2010). However, where family or employer networks facilitate migration, distance could be less of an impediment to migration among those with lower levels of education or financial capital (Massey & Aysa, 2005; Takenaka & Pren, 2010).

Migration and the Education of Children Left Behind:

Research on migration and the education of children in origin communities yields mixed results. On the one hand, migrant remittances are expected to bolster household resources and increase the affordability of schooling for children in sending households. On the other hand, migration also represents a cost to households in the form of lost labor. The mixed findings on migration and children's education could stem from competing household needs (Lu & Treiman, 2011; McKenzie & Rapoport, 2011). Migration may have a negative impact on reducing educational disparities if children of migrants substitute for missing migrant's local labor. Parental absence places demands on children's labor and time to make up for the domestic labor and time of the absent migrant in places as diverse as Indonesia, Mexico, and rural China (Deb & Seck, 2009; Meyerhoefer & Chen, 2011). Evidence from Peru suggests that children's education does not benefit from parental migration (Robles & Oropesa, 2011). These substitutions may be gender and age specific. Older girls from migrant families, for example, are particularly likely to reduce their schooling when compared to those in non-migrant families in Mexico (McKenzie & Rapoport, 2006). Finally, removing adults from the home via migration may also have the effect of reducing adult supervision, thereby reducing children's educational engagement and success (Robles & Oropesa, 2011).

In addition, migration can re-orient expectations and plans so that children in communities with a high prevalence of migration expect to become labor migrants and attrit from school earlier (Kandel & Kao, 2004). If the economic returns to education are poor in the community of origin and out-migration has been established, children may opt for migration rather than remain in school. In this case, migration substitutes for education as a means of generating further economic returns. Migration may not be a net benefit to children's education as they become oriented towards labor migration themselves, especially among young men who are more likely to become labor migrants (Fox et al., 2012).

However, other studies conclude that economic remittances offset the negative impacts of migration. Although parental absence reduces the proximity of available adults, absence due to migration is less of a disadvantage than other forms of paternal absence in Mexico (Nobles, 2011). Economic remittances from migrating parents in South Africa and Ghana also offset the negative impact of parental absence on children's school enrollment (Adams & Cuecuecha, 2013; Lu & Treiman, 2011). These impacts of migration on children's schooling vary across geographic contexts and again within contexts when comparing children by age and gender. For example, older children will be able to provide additional domestic and agricultural labor than younger children so it becomes costlier to keep older children in school. In this case, we would observe the beneficial effects of parental migration on children's schooling for older children than younger children. This is suggested by research on girls' education in Thailand where migrant remittances have a positive impact on the probability of transitioning into secondary school (Curran et al., 2004). On the other hand, older children and adolescents may become less attached to schooling as they anticipate their own migration. Remittances in Nepal have a lower impact on older children's schooling than they do on younger children (Vogel & Korinek, 2012).

In Mexico, children of migrants tend to reduce their educational expectations and attachment to schooling as they age (Kandel & Kao, 2001; Kandel & Massey, 2002). There is also considerable variation in school completion among adolescents living in areas with high levels of international migration. But these are also areas where educational attainment is lower (Giorguli et al., 2010; Vargas Valle, 2012). In other words, it may be that the variations observed in migrations' association with children's schooling are associated with the educational opportunities and perceived returns to education.

Here we suggest that variation in the association between migration and the school enrollment of children left behind will depend not only on the age and gender of the child but also on the educational selectivity of migration at the household level. Living in a community with a higher prevalence of out-migration, having family members with migration experience, and human capital (education) are all associated with the selection of immigrants (Massey & Aysa, 2005).

The perceived opportunity for better employment abroad among educated individuals could encourage school enrollment for children in origin communities. In this case, living in a household where a positively selected migrant originated may not only provide the necessary funds for continued schooling but may also provide incentive for higher levels of education. Among positively selected migrant groups in the United States, second-generation educational attainment is higher than for groups predominated by lower pre-migration education levels when compared to the population at origin (Feliciano, 2005). Positive selection of motivated and optimistic migrants may also be associated with higher aspirations among migrants' children. In this case, we expect that children from sending households where migrants are positively selected will have higher school enrollment. Such expectations of improved lives may explain

why the perception that migrants are successful enhances children's outcomes regardless of the actual amount of economic remittances provided by the migrant (Yabiku et al., 2012).

Adjusting for migrant selection may explain the mixed findings on the educational returns to family migration for children left behind. Yet even when selection is considered, mixed results persist. For example, Antman (2012) relies on sibling fixed effects models to adjust for migrant selection when studying the impact of parental migration on schooling in Mexico. There is a positive impact of international migration on girls' education facilitated by remittances. But these analyses do not consider whether there is variation in the educational selectivity of migrants and the possibility of differential returns to families and children in sending communities depending on that selection. Halpern-Manners (2011), also adjusting for selection bias albeit with different statistical techniques, finds that migration reduces youth's educational transitions at high levels of education. Even though both of these studies look at Mexico and adjust for selection, they find mixed results on migration and returns to schooling. Of course, these mixed results may simply stem from the different outcome measures of schooling and education. However, it may also be necessary to consider the type of selection (positive or negative) as a direct mechanism to assess the role of migration on children left behind.

Research Settings

Our study examines the question of whether the educational selectivity of migrants is associated with differential school enrollment among children in four Sub-Saharan African countries: Senegal, Nigeria, Burkina Faso, and Kenya. These four countries are included in data collected by the World Bank as part of the Africa Migration Project to provide comparable household-level data on migration and remittances. The four settings in this study represent various sub-

regions of Sub-Saharan Africa: Burkina Faso, Nigeria, and Senegal represent West Africa and Kenya represents East Africa. These four countries also differ in their migration patterns, including the educational selectivity of migrants.

In all four countries, rural-urban migration is relatively common (de Brauw, Mueller & Lee, 2014). The opportunity of receiving higher wages, both in the formal and informal sectors, attracts rural migrants to cities and towns (de Brauw, Mueller & Lee, 2014). The scarcity of secondary schools in rural areas also increases the likelihood that individuals migrate to urban areas. International migration, on the other hand, varies considerably across all four countries in prevalence and in terms of the number and distance of countries to which migrants travel (Plaza, Navarrete, and Ratha, 2011).

Burkina Faso has had a long history of out-migration to Cote d'Ivoire (Cordell, Gregory, & Piché, 1996). During much of the twentieth century while under French colonial rule, a system of sending male migrant workers to work on Cote d'Ivoire's cocoa and coffee plantations was put in place. Though Burkina Faso gained its independence from France more than fifty years ago, labor migrants continue to migrate to Cote d'Ivoire in search of work. Today, more than 80 percent of international migrants from Burkina Faso migrate to Cote d'Ivoire (Plaza, Navarrete, and Ratha, 2011). Most of these migrants have little or no education.

Senegal's history of migration is similar to that of Burkina Faso; however, they also have substantial migration to other countries, including to Europe (Diatta & Mbow, 1999). Although Cote d'Ivoire was once the top destination for Senegalese migrants moving within Africa, the civil war in the early 2000s disrupted this flow and now Gambia is the most popular destination (IOM 2009b). There is also substantial migration to destinations outside of Africa, particular to France, Italy, and Spain (IOM 2009b). International migrants come from some of the poorest

regions of Senegal and many have little or no formal education (Diatta & Mbow 1999). Approximately 25 percent, however, have tertiary education (IOM 2009b).

Although the majority of international migrants from Sub-Saharan Africa migrate to other African countries (Ratha, Mohapatra, et al., 2011), Nigeria has high levels of migration to destinations outside the continent, primarily to the United States and United Kingdom (Plaza, Navarette, & Ratha 2011). Among African countries, Sudan is the most popular destination for Nigerian migrants. Traditionally, Nigeria was an important destination for African migrants from the region; however, in recent years, the out-migration rate has increased considerably and surpasses that of in-migration (United Nations, Department of Economic and Social Affairs, 2012). International migrants from Nigeria tend to be highly skilled with two-thirds of Nigerians in OECD countries having tertiary education and many working in the medical sector (IOM, 2009a).

Kenya's pattern of international migration is similar to that of Nigeria. The majority of international migrants go to OECD countries, mainly to the United States and United Kingdom, rather than to other African destinations (Plaza, Navarette, & Ratha 2011). Kenyan migrants have much higher levels of education compared to migrants from Burkina Faso and Senegal but lower levels than Nigerian migrants. Whereas most international migrants from Nigeria living in OECD countries have tertiary education, the average level of education for Kenyan migrants is secondary attainment.

Data and Methods

We use data from the Migration and Remittances Household Surveys conducted as part of the World Bank's Africa Migration Project. These cross-sectional surveys, conducted in 2009 and 2010, collected comparable household-level data in six Sub-Saharan African countries (Burkina

Faso, Kenya, Nigeria, Senegal, South Africa, and Uganda) on the characteristics of migrants in sending households, remittances sent to their households, and the characteristics of return migration. The present study uses data collected in Burkina Faso, Kenya, Nigeria, and Senegal. We excluded South Africa from the study because it is a predominantly immigrant-receiving country, attracting migrants from all over Southern Africa, rather than a traditional migrant-sending country. We also excluded Uganda because educational attainment was measured differently from the other countries in our sample.[1] Our final analytic sample is composed of children, ages 6-17 years, living in the surveyed households in Burkina Faso, Kenya, Nigeria, and Senegal.

Although the Migration and Remittances Household Surveys were designed to collect comparable household-level data on migration and remittances in the participating countries, different methodologies were used to obtain the sampling frames in each country. In Nigeria and Senegal, the sampling frames are nationally representative while in Burkina Faso and Kenya, they are representative at the provincial and district level, respectively. Because the Migration and Remittances Household Surveys were designed to gather information about both international and internal migrant-sending households, each country's sampling frame needed to include sufficient numbers of migrant households. Even in countries with high rates of international migration, it is difficult to find households that have migrants living abroad (McKenzie and Mistiaen 2007). In order to capture a sufficient number of migrant-sending households in the primary sampling units, survey teams conducted household listings with the purpose of classifying households into one of three categories (non-migrant, domestic migrant, international migrant). A household was considered to be a migrant-sending household if at least

[1] In Uganda, the survey coded educational attainment using the following categories: none, didn't complete primary, completed primary, completed secondary, and tertiary. In all other countries, educational attainment was coded in the following manner: none, primary, secondary, and tertiary.

one former household member lived in another village, urban area, or country for at least six months before the time of the survey. Next, survey teams randomly selected equal numbers of households according to their migration status, which resulted in oversampling of domestic migrant and international migrant households. In each household, interviewers surveyed the head of the household on all modules except the return migrant module, for which the return migrant was surveyed. For further details on the survey methodology, see Plaza, Navarrete, and Ratha (2011).

Variables

Our primary outcome of interest is children's current school enrollment. We created this variable using information collected in the household roster. Current school enrollment is measured using the household head's response to the following question: "What is (NAME)'s current work situation?" If the respondent reported "full-time student", then we coded the child as currently attending school. All other responses were coded as not attending school. We note that this is a conservative measure of school enrollment such that children working *and* going to school are not coded as attending school.

Our primary independent variables relate to migration and are coded at the household level. We created these variables using information collected in the roster of former household members, as reported by the head of the household. Former members of the household are migrants who have lived outside the household for more than six months before the time of the survey. Household heads answered a series of questions about each migrant's sociodemographic characteristics and migration experience. The first variable, household migration status, is a binary variable indicating whether a household has a labor migrant. We defined a former household member as a labor migrant if the household head reported work-related reasons as the

primary reason the former household member lived outside the household. Because some labor migrants may have left the household decades ago and have little to no contact with the household, we limited our migrant sample to labor migrants who were reported to be living in his/her current location for the last five years. Ideally, we would have restricted the sample to migrants who left the household in the last five years; however, this information was not collected in Kenya and Nigeria. The following is the only question that relates to duration of migration in all four countries: "How long has (NAME) lived in his/her current location?" [2] We coded a household as a migrant household if the household head reported at least one former household member who lived outside the household for work-related reasons and resided in his/her current location for the past five years. All other households are coded as non-migrant households.

Our study goes beyond the dichotomy of migrant versus non-migrant household by taking into account the educational selectivity of migrants. The educational selectivity of the migrant measures the educational attainment of the migrant in the household relative to the average level of education in the country. If a household has a labor migrant (or at least one labor migrant in the case of multiple labor migrants) whose educational attainment is higher than the country average[3], then we coded the household as having a positively selected migrant. All other migrant households are coded as "other migrants", which includes migrants with the same or lower educational attainment as the country's average.

[2] In Burkina Faso and Senegal, we cross-tabulated the number of labor migrants whose duration since migration is less than five years with labor migrants who have lived in his/her current location for the same duration. In Burkina Faso, 83 percent of labor migrants whose duration since migration is less than five years are also coded as living in the current location for the same amount of time. In Senegal, this figure is close to 100 percent.

[3] We calculated the average level of education among adults in each country using data collected by the Demographic and Health Survey during the same period of time as the Migration and Remittances Household Survey. In all countries, except Burkina Faso, the average level of educational attainment is primary. In Burkina Faso, no education is the mean level of educational attainment.

We rely on several variables as controls for predicting family migration as well as children's school enrollment. We include controls for child's age, gender, urban residence, religion, ethnic group, household wealth index, and the number of children in the household. We also include controls for characteristics of the household head because he or she has influence over whether the child attends school. Age of the household head is a proxy for family life cycle stage that is an important predictor of selection into migration (Durand and Massey, 1992). Likewise, we control for the education level of the household head. Family and household resources including education, land, and income are all positively associated with children's schooling in African countries just as they are in other contexts (Buchmann, 2000). Head's education is likely a strong predictor of children's schooling and correlated with, but not identical to, migrants' education. Finally, the child's relationship to the household head could also influence whether a child is enrolled in school. Children with closer biological ties to the household head are more likely to be attending school (Case, Paxson, & Ableidinger 2004).

Methods

We use multivariate logistic regression to examine the relationship between family migration and current school enrollment. We build two sets of models for each specification of migration (household migration status and educational selectivity of migrant). The first model includes controls for child's age, gender, urban residence, religion, and ethnic group. In the second model, we add controls for household wealth index, number of children in the household, household head's age, household head's educational attainment, and child's relationship to the household head. Because some households contain more than one child in the analytic sample, we adjust standard errors to take into account the clustering of children within households. In exploratory models, we took into account the sampling design of the survey by incorporating survey weights

into our regression models. We obtained similar results to those we present in the current paper. Because one of the countries, Kenya, did not include survey weights in their publicly released dataset and the results do not vary with or without survey weights, we chose to maintain consistency across all four countries by presenting regression models without survey weights.

Preliminary Results

Descriptive Statistics

In Table 1, we present characteristics of current labor migrants from migrant-sending households in our analytic sample. In all four countries, the mean age is approximately 30 years and the overwhelming majority of migrants are male. Close to half of all migrants in Kenya, Nigeria, and Senegal come from urban areas while only 5 percent of migrants from Burkina Faso do. The type of migration varies across all four countries. The majority of migrants in Kenya, Nigeria, and Senegal are domestic migrants, likely engaged in rural-urban migration. Burkina Faso has the highest percentage of migrants, approximately 60 percent, working internationally. Almost all of these migrants are working within Africa, primarily in Cote d'Ivoire. Senegal also has a high percentage of migrants working internationally, evenly split between another African country and outside Africa. In Kenya and Nigeria, the majority of international migrants are working outside Africa. There also exists variation in the educational attainment of migrants across the four countries. In Burkina Faso and Senegal, the majority of migrants have never attended school while approximately half of all migrants in Kenya and Nigeria have secondary or tertiary educational attainment. When compared to the country average, we observe that 80 percent of migrants in Kenya and Nigeria are positively selected on education. The opposite is true in Burkina Faso and Senegal, where only 25 percent of migrants are positively selected.

Finally, we observe that the majority of migrants are children of the household head. Being a sibling of the household head is the next most common relationship.

Next we show characteristics of children by current household migration status (Table 2). We observe differences in children's characteristics across countries and by household migration status. In all four countries, the mean age of children is approximately 11 years and girls make up less than half the analytic sample. Children in migrant-sending households are significantly older in Burkina Faso and Nigeria, however, this difference is small. In Nigeria and Senegal, a greater percentage of boys than girls live in migrant households compared to non-migrant households. Approximately 50 percent of children live in urban areas in all countries, except Burkina Faso, where less than 5 percent are urban dwellers. There are also differences in rural residence by household migration status. Although more children in migrant-sending households live in urban areas in Nigeria, this is not the case in Burkina Faso and Senegal, where a significantly smaller percentage live in cities and towns. With respect to religion, there are vast country differences. In Senegal, the analytic sample is overwhelmingly Muslim, approximately 96 to 99 percent, and in Burkina Faso, Muslims make up close to two-thirds of the analytic sample. The percentage of children living in Muslim households is considerably lower in Kenya and Nigeria. Differences in religion by household migration status are also statistically significant across the four countries. Although we do not list ethnic groups for each country, we show statistically significant differences in ethnicity by household migration status. The number of children living in the household varies greatly by country, ranging from an average of three children per household in Kenya to an average of eight in Burkina Faso and Senegal. In all four countries, the average number of children per household is greater in migrant than non-migrant households.

Due to the important role the household head typically plays in the allocation of household resources and decisions regarding schooling in Sub-Saharan Africa, we also present characteristics of the household head by household migration status. The mean age of the household head ranges from the mid-forties in Kenya to the mid-fifties in Senegal. We observe that household heads are several years older, on average, in migrant households. There are considerable differences in the educational attainment of household heads by country. In Burkina Faso and Senegal, the vast majority of household heads never attended school, while in Kenya and Nigeria, approximately one-quarter have no schooling and 20 percent have tertiary educational attainment. There are significant differences in the educational attainment of household heads by household migration status. Educational attainment is lower for household heads in migrant households than in non-migrant households. In all four countries, we find that the analytical sample is composed mostly of biological children of the household head. The next most common relationship is that of grandchild. When examined by household migration status, we observe that children are less likely to be biological children and more likely be grandchildren of the household head in migrant-sending households.

In Table 3, we present descriptive statistics of current school attendance by household migration status. When we focus solely on a dichotomous indicator of household migration, we do not observe a consistent relationship between living in a migrant-sending household and current school enrollment across the four countries. In Burkina Faso and Senegal, children living in migrant-sending households have similar levels of school attendance as their counterparts in non-migrant households. In contrast, children living in migrant-sending households have significantly higher levels of school attendance in Kenya and Nigeria. We also observe that the educational selectivity of migrants matters for children's current school enrollment. In all four

countries, children living in households with positively selected migrants (i.e. migrants whose education level is higher than the country average) have the highest rates of school enrollment. In Burkina Faso and Senegal, children living in migrant households without positively selected migrants have lower levels of school enrollment than children in non-migrant households.

Regression Analyses

We begin our analysis by testing whether household migration status is associated with current school enrollment (Table 4). Our results show that, even after controlling for household characteristics, Kenya is the only country where a strong relationship is found between household migration status and current school enrollment. Children living in migrant-sending households are significantly more likely to be enrolled in school. A similar, albeit weaker, relationship is observed in Senegal. No differences are found in current school enrollment by household migration status in Burkina Faso and Nigeria.

The differences observed in Table 4 are not necessarily consistent with the average selectivity of migration; recall that positive selection was more common in Kenya and Nigeria and lower in Senegal and Burkina Faso. Thus, we proceed by going beyond the migrant versus non-migrant household dichotomy to also consider this migrant selection. In Table 5, we investigate whether the educational selectivity of migrants is associated with current school enrollment. In all countries, except Nigeria, children living in households with positively selected migrants are significantly more likely to be attending school than their counterparts in non-migrant households. Burkina Faso is the only country where children living in households with other migrants, those who are not positively selected, are significantly less likely to be attending school.

In Tables 4 and 5, several control variables are shown to be significantly associated with current school enrollment. These relationships, however, vary largely by country. Although age is negatively associated with school enrollment in Burkina Faso and Senegal, it is positively associated in Kenya. Burkina Faso is the only country where girls are significantly less likely to be attending school. In all countries, except Kenya, children living in urban areas are more likely to be enrolled in school. Surprisingly, urban residence is negatively associated with current school attendance in Kenya. There are also significant differences in current school enrollment by religion and wealth index. Muslim children tend to have the lowest levels of school enrollment in all countries with the exception of children following traditional or other religions in Burkina Faso. Whereas no significant relationship exists between wealth index and school enrollment in Kenya and Nigeria, a generally positive relationship is observed in Burkina Faso and Senegal. The educational attainment of the household head appears to matter for children's school enrollment in Burkina Faso and Senegal, where education levels are the lowest. In these two countries, educational attainment of the household head is positively associated with schooling. Lastly, we find that the child's relationship to the household head is related to school attendance; however, this relationship varies greatly by country. In all countries, except Senegal, children who are not the biological child, grandchild, brother/sister, or nephew/niece of the household head are significantly less likely to be attending school. In Nigeria, siblings and grandchildren of the household head are less likely to be enrolled in school. This is also true for siblings of the household head in Burkina Faso.

Discussion and Future Directions

Our preliminary results provide additional insight into the differential results found in studies on family migration and children's current school enrollment. We go beyond the work of

previous studies that have focused on a dichotomous indicator of household migration by taking into account the educational selectivity of migrants. Our study takes advantage of comparable household-level data collected in four Sub-Saharan African countries (Burkina Faso, Kenya, Nigeria, and Senegal) as part of the World Bank's Africa Migration Project. These four countries represent different geographical regions, patterns of migration, and educational selectivity of migrants. Our study shows a weak or statistically insignificant association between living in a migrant-sending household and current school attendance. Only in Kenya is household migration positively associated with attending school. When we considered the educational selectivity of migrants, we found that in all countries, except Nigeria, children living in households with positively selected migrants had significantly higher levels of school enrollment compared to children living in non-migrant households. There are several possible reasons for this finding. Children living in households where migrants have more education may reap more economic benefits from that migration. These households may also be oriented towards education prior to migration of any household members. Finally, it may be that observing the returns to education in the form of migration also encourages attachment to schooling on the part of children left-behind.

Burkina Faso is the only country where children living in households with non-positively selected migrants were less likely to be attending school. This is also a setting where low skilled international migration is well-established. Thus, children in this context may be more likely to observe the success of labor migrants with low levels of education and orient themselves towards becoming labor migrants, resulting in higher rates of school dropout.

Our study reveals the importance of going beyond the use of a dichotomous indicator of household migration status and comparing across diverse sending contexts. There are several

additional factors we can consider as we go beyond these preliminary analyses. We plan to take advantage of the information on the destination of migrants (domestic, Africa, outside Africa) as this is often related to the educational selectivity of migrants. Migrants moving to the United States or Europe tend to have higher levels of educational attainment than those moving internally or to other African countries (Ratha, Mohapatra, et al., 2011). We will also consider the age and gender of the child. Previous studies have shown that families or households often make differential schooling decisions based on the child's age and gender. Thus, the relationship between family migration and current school attendance may be modified by these factors. Finally, we will consider refining our definition of labor migrants to include those who have been living in their current location for more than five years. Some migrants who have been away for longer durations may continue to have substantial contact with and contribute financial resources to their former household.

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Table 1. Characteristics of Current Labor Migrants, Migration and Remittances Household Surveys 2009-10

	Burkina Faso	Kenya	Nigeria	Senegal
Mean age (years)	27.9	31.0	25-34[a]	32.1
Male (%)	95.2	65.6	76.3	92.2
From urban area (%)	5.4	43.4	45.6	54.3
Destination (%)				
Domestic	41.1	64.5	68.8	50.0
Africa	57.6	13.3	11.4	24.9
Outside Africa	1.4	22.2	18.8	25.1
Educational attainment (%)				
None	73.5	0.4	6.0	54.0
Primary	16.0	19.5	12.3	22.2
Secondary	9.8	46.9	42.6	17.6
Tertiary	0.7	33.3	39.0	6.3
Positive migrant selectivity[b] (%)	26.7	80.3	82.2	25.5
Relationship to household head (%)				
Spouse/partner	3.2	17.1	0.9	7.6
Son/daughter	51.3	64.8	49.4	58.8
Father/mother	6.9	1.3	NA	0.4
Brother/sister	30.8	11.3	24.9	17.7
Grandchild	5.9	1.6	17.3	NA
Other	1.9	3.9	7.6	15.6
N	745	751	342	844

[a] Survey only collected data on age range of migrants.
[b] Selectivity is based on educational attainment relative to the country average. Positively selected migrants have higher educational attainment than the country average.

NA = Not applicable.

Table 2. Characteristics of Children by Current Household Migration Status, Migration and Remittances Household Surveys 2009-2010

	Burkina Faso			Kenya			Nigeria			Senegal		
	Non-migrant	Migrant		Non-migrant	Migrant		Non-migrant	Migrant		Non-migrant	Migrant	
Age (years)	10.9	11.1	*	11.3	11.5		11.6	12.1	**	11.2	11.2	
Female (%)	48.1	47.3		48.9	51.2		46.7	40.8	*	49.6	47.2	+
Lives in urban area (%)	4.1	2.3	***	42.4	44.3		42.0	51.8	***	58.2	46.9	***
Religion (%)			***			**			***			***
Muslim	62.1	65.9		15.8	21.4		50.9	38.4		96.3	98.8	
Catholic	18.4	17.4		20.2	17.1		12.6	17.8		3.7	1.2	
Protestant	5.3	2.2		62.6	59.8		35.1	40.4		0.0	0.0	
Traditional/none	14.2	14.6		1.4	1.6		1.4	3.4		0.0	0.0	
Wealth index (%)			***						***			***
Ethnic group[a]	---	---	**	---	---	**			***	---	---	*
Poorest	19.3	25.0		25.7	24.3		16.2	5.5		11.9	8.7	
Second	22.7	20.4		23.2	22.0		11.1	7.1		16.4	0.7	
Third	22.5	21.4		17.7	22.4		17.0	20.7		21.9	25.3	
Fourth	17.8	17.5		18.6	17.5		25.6	28.9		25.8	21.4	
Wealthiest	17.8	15.7		14.9	14.0		30.1	37.9		23.9	21.3	
Number of children living in household	6.9	7.8	***	3.4	3.6	**	4.8	5.0		6.9	8.2	***
Household head's age (years)	50.4	54.1	***	45.9	48.8	***	48.7	54.7	***	53.0	56.3	***
Household head's educational attainment (%)			*			***			***			***
None	89.2	89.1		18.7	32.0		25.4	22.9		69.3	76.2	
Primary	8.2	9.4		35.0	34.4		21.0	30.0		14.2	12.5	
Secondary	2.2	1.2		26.3	19.5		23.1	24.5		11.3	9.0	
Tertiary	0.4	0.3		20.1	14.1		21.0	22.3		5.1	2.4	
Other	-	-		-	-		9.5	0.4				
Relationship to household head (%)			***			***			**			***
Child	77.4	74.4		76.7	71.3		85.1	83.0		60.3	48.6	
Grandchild	6.5	10.0		13.2	20.5		4.3	7.5		15.6	19.5	
Brother/sister	4.1	3.1		1.7	1.0		3.0	1.1		2.4	1.4	
Nephew/niece	7.5	7.6		3.3	2.5		2.6	1.8		11.2	16.1	
Other	4.5	5.1		5.1	4.8		5.1	6.6		10.4	14.4	
Total	4504	2132		1466	738		3522	454		3232	1988	

[a] Ethnic groups are not listed because they vary by country.

+ p<.10. *$p < .05$. **$p < .01$. ***$p < .001$.

Table 3. Current School Attendance by Household Migration Status, Migration and Remittances Household Surveys 2009-10

	Burkina Faso		Kenya		Nigeria		Senegal	
Household migration status				***		***		
Non-migrant	42.9		80.2		68.7		61.5	
Migrant	41.2		87.1		78.0		59.8	
Educational selectivity of migrant		***		***		***		***
Non-migrant	42.9		80.2		68.7		61.5	
Other migrant	36.0		84.2		76.0		52.8	
Positive	55.0		88.1		78.4		79.3	
N	6636		2204		3976		5220	

***$p < .001$.

Table 4. Logistic Regression Models Predicting Current School Enrollment by Household Migration Status, Migration and Remittances Household Surveys 2009-2010

	Burkina Faso		Kenya		Nigeria		Senegal	
VARIABLES	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Migrant household	-0.03	-0.03	0.49**	0.53**	0.13	0.08	0.12	0.18+
Age	-0.04***	-0.03***	0.08***	0.08***	-0.01	-0.00	-0.05***	-0.06***
Female	-0.21***	-0.18**	-0.01	0.00	-0.09	-0.06	-0.05	-0.02
Lives in urban area	1.33***	0.99***	-0.54**	-0.63***	0.59***	0.50**	1.31***	0.61***
Religion								
Muslim (ref.)	---	---	---	---	---	---	---	---
Catholic	0.40***	0.33***	-0.14	-0.07	-0.34	-0.47+	1.64***	1.77***
Protestant	0.73***	0.72***	0.14	0.16	0.05	-0.00		
Traditional/Other	-0.37***	-0.32***	-0.68	-0.57	2.78**	2.66**		
Wealth index								
Poorest (ref.)		---		---		---		---
Second		-0.13		0.30		-0.17		0.48**
Third		0.27*		0.16		-0.08		1.07***
Fourth		0.11		0.26		0.42		1.17***
Richest		0.52***		-0.08		0.42		1.58***
Number of children in household		-0.00		0.06		0.03		-0.03+
Household head's age		0.00		0.01		0.01+		-0.01
Household head's educational attainment								
None (ref.)		---		---		---		---
Primary		0.66***		-0.00		0.19		0.44**
Secondary		1.48***		0.21		0.04		1.15***
Tertiary		1.29**		0.59+		0.05		0.95***
Relationship to household head								
Child (ref.)		---		---		---		---
Grandchild		0.10		-0.17		-0.53+		0.07
Brother/sister		-0.39*		0.22		-0.59*		-0.24
Nephew/niece		-0.12		-0.26		-0.29		0.09
Other		-1.15***		-1.27***		-1.02***		-0.23+
Constant	0.19+	-0.11	0.52	-0.13	-0.33+	-1.03**	0.18	-0.04
N	6,635	6,633	2,178	2,172	3,913	3,910	5,220	5,220
Pseudo R2	0.0403	0.0668	0.0655	0.0885	0.139	0.156	0.0918	0.144

Note: All models include controls for ethnic group.
+ p<.10. *p < .05. **p < .01. ***p < .001.

Table 5. Logistic Regression Models Predicting Current School Enrollment by Education of Migrant in Household Relative to Country Average, Migration and Remittances Household Surveys 2009-2010

	Burkina Faso		Kenya		Nigeria		Senegal	
VARIABLES	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Educational selectivity of migrant								
Non-migrant (ref.)	---	---	---	---	---	---	---	---
Other migrant	-0.22**	-0.20*	0.31	0.31	0.33	0.42	-0.09	0.02
Positive	0.45***	0.41**	0.57**	0.62**	0.08	-0.00	0.83***	0.74***
Age	-0.04***	-0.03***	0.08***	0.08***	-0.01	0.00	-0.05***	-0.06***
Female	-0.21***	-0.18**	-0.01	0.00	-0.09	-0.06	-0.04	-0.01
Lives in urban area	1.32***	0.99***	-0.54**	-0.62***	0.59***	0.50**	1.26***	0.60***
Religion								
Muslim (ref.)	---	---	---	---	---	---	---	---
Catholic	0.37***	0.31***	-0.14	-0.07	-0.34	-0.48+	1.59***	1.74***
Protestant	0.73***	0.72***	0.14	0.16	0.04	-0.02		
Traditional/other	-0.36***	-0.32***	-0.67	-0.57	2.79**	2.67**		
Wealth index								
Poorest (ref.)		---		---		---		---
Second		-0.13		0.29		-0.17		0.46**
Third		0.26*		0.14		-0.08		1.06***
Fourth		0.09		0.24		0.44		1.16***
Wealthiest		0.51***		-0.11		0.44		1.54***
Number of children in household		0.00		0.07		0.03		-0.03+
Household head's age		0.00		0.01		0.01+		-0.01
Household head's educational attainment								
None (ref.)		---		---		---		---
Primary		0.62***		-0.01		0.20		0.40**
Secondary		1.46***		0.19		0.05		1.12***
Tertiary		1.24*		0.58+		0.07		0.91**
Other						0.35		
Relationship to household head								
Child (ref.)		---		---		---		---
Grandchild		0.12		-0.18		-0.53+		0.08
Brother/sister		-0.39*		0.22		-0.60*		-0.25
Nephew/niece		-0.12		-0.27		-0.29		0.08
Other		-1.15***		-1.28***		-1.02***		-0.23+
Constant	0.22*	-0.07	0.52	-0.15	-0.33+	-1.04**	0.22	0.01
N	6,635	6,633	2,178	2,172	3,913	3,910	5,220	5,220
Pseudo R2	0.0452	0.0705	0.0661	0.0891	0.139	0.157	0.1000	0.149

Note: All models include controls for ethnic group.
+ p<.10. *p < .05. **p < .01. ***p < .001.